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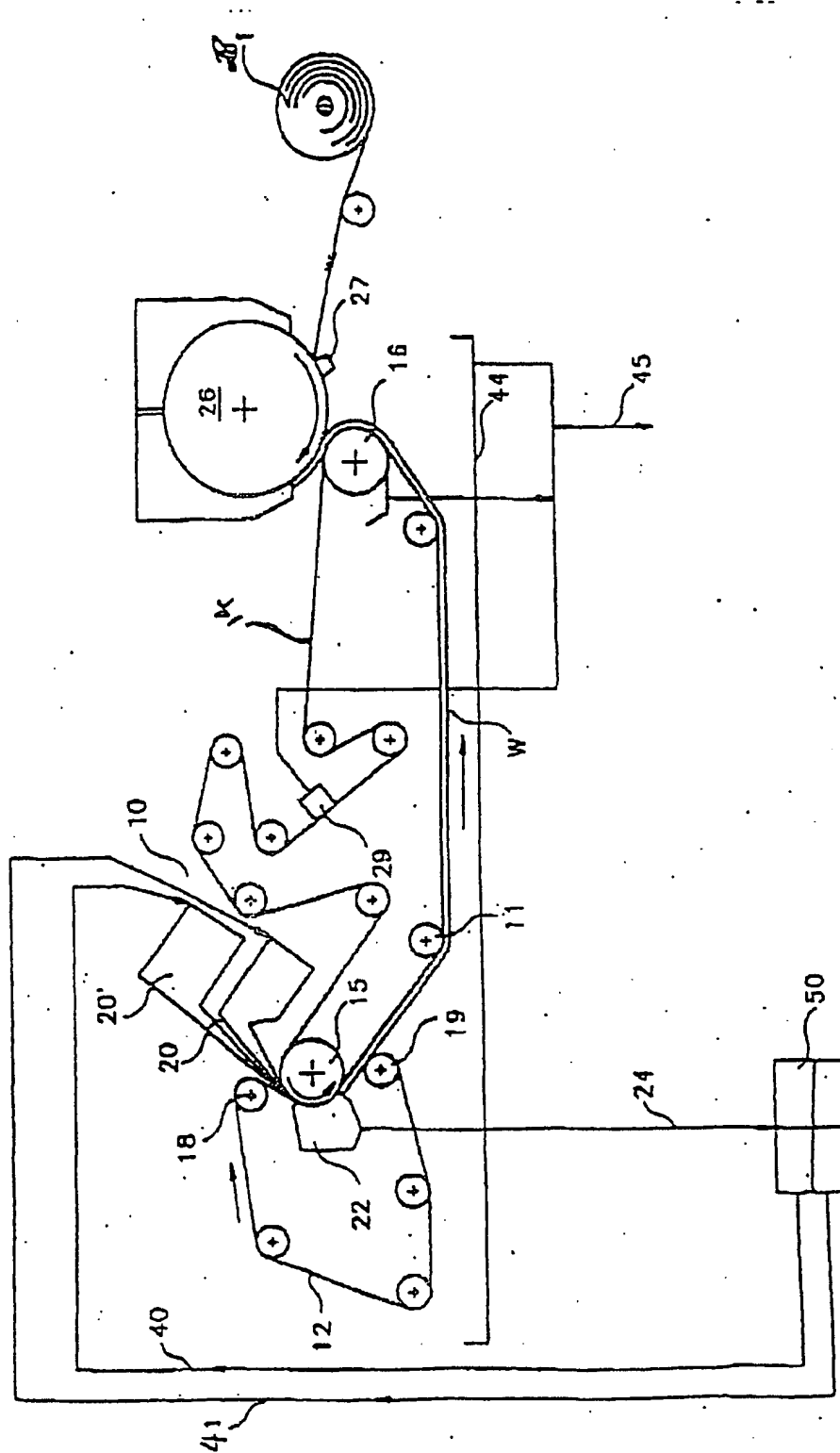
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FIG. 1 — CONVENTIONAL WEI PRESS PROCESS LAYOUT



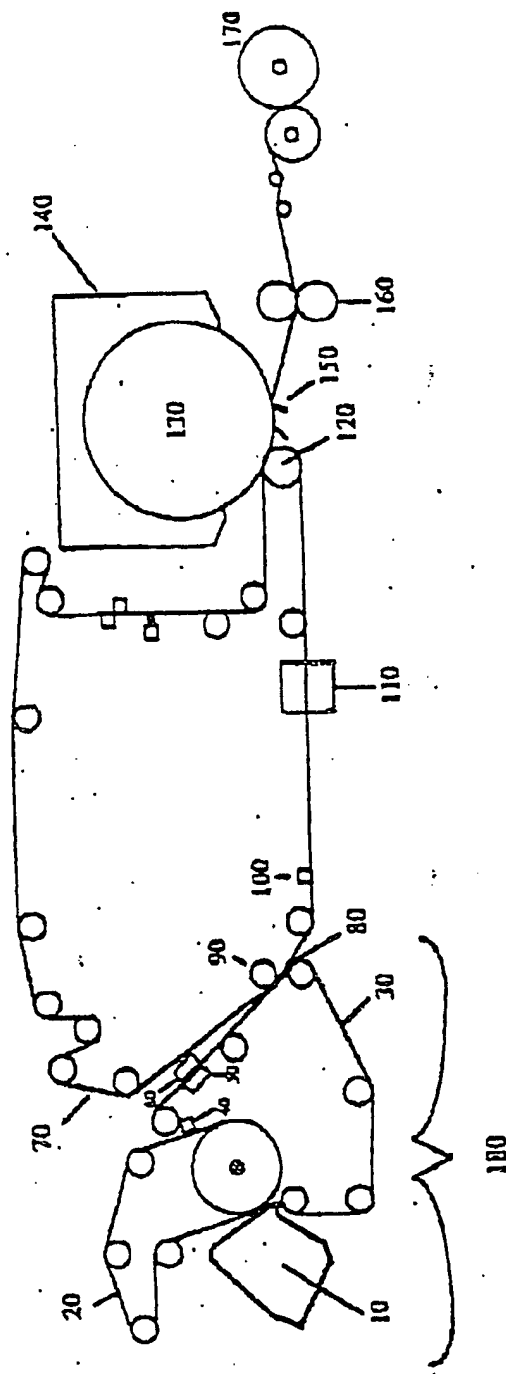


FIG. 2 --CONVENTIONAL THROUGH-AIR-DRYING PROCESS LAYOUT

Papermachine Stock Flow Diagram

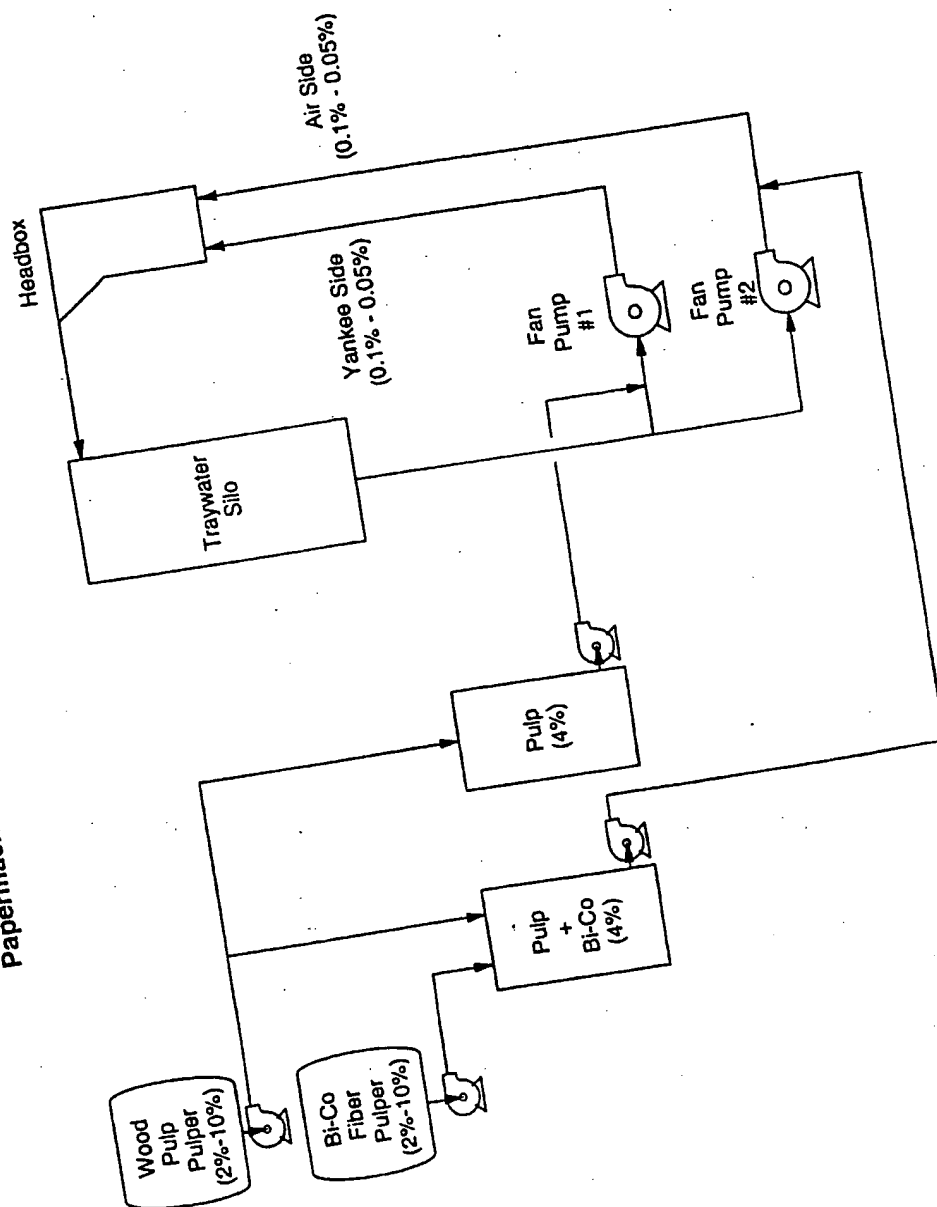


FIG. 3

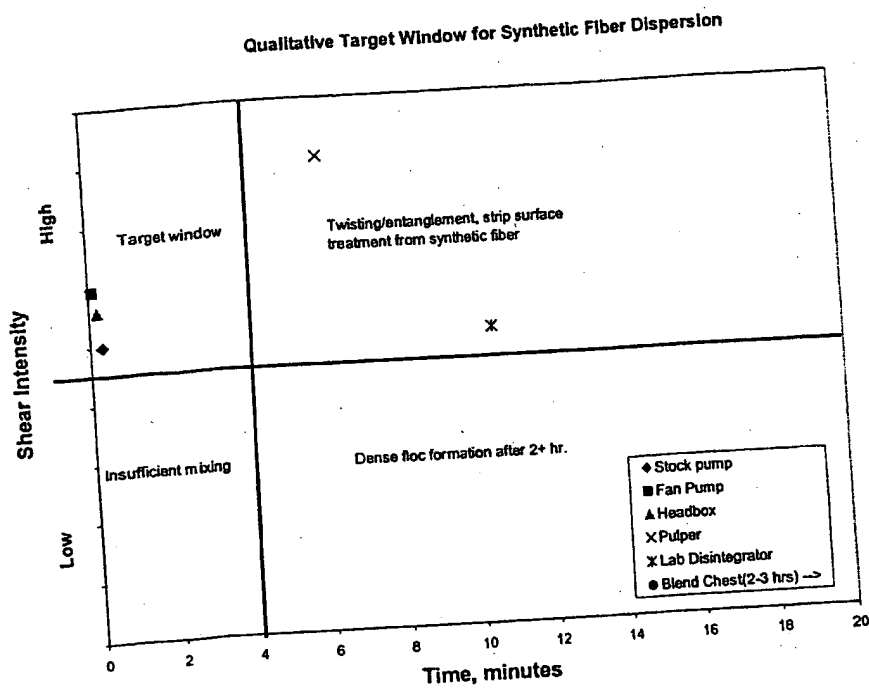


FIG. 4

Effect of Bicomponent Fiber Processing on Formation

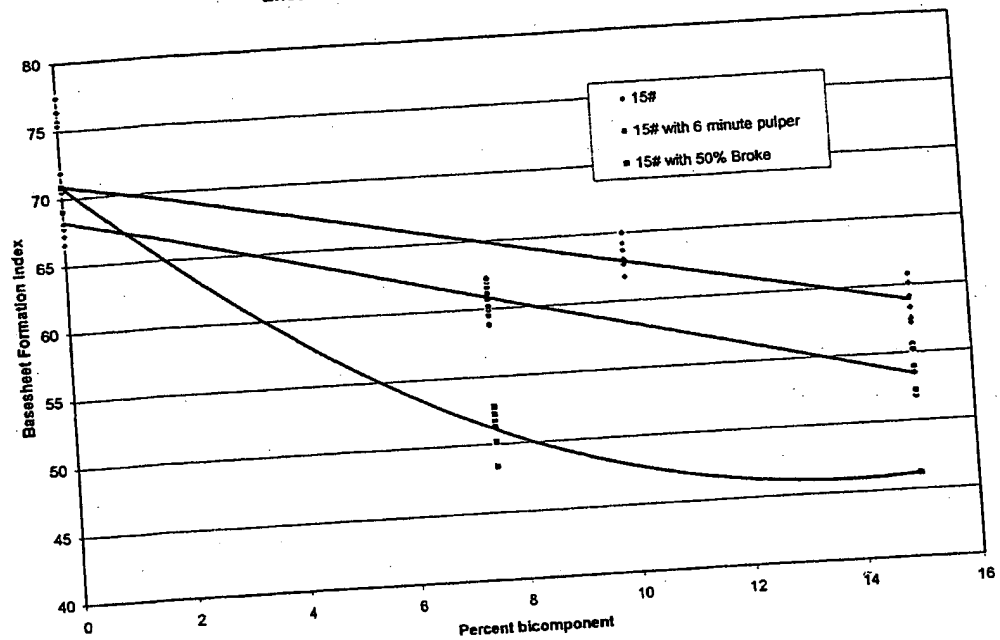


FIG. 5

Effect of Basis Weight and Bicomponent Fiber on Formation

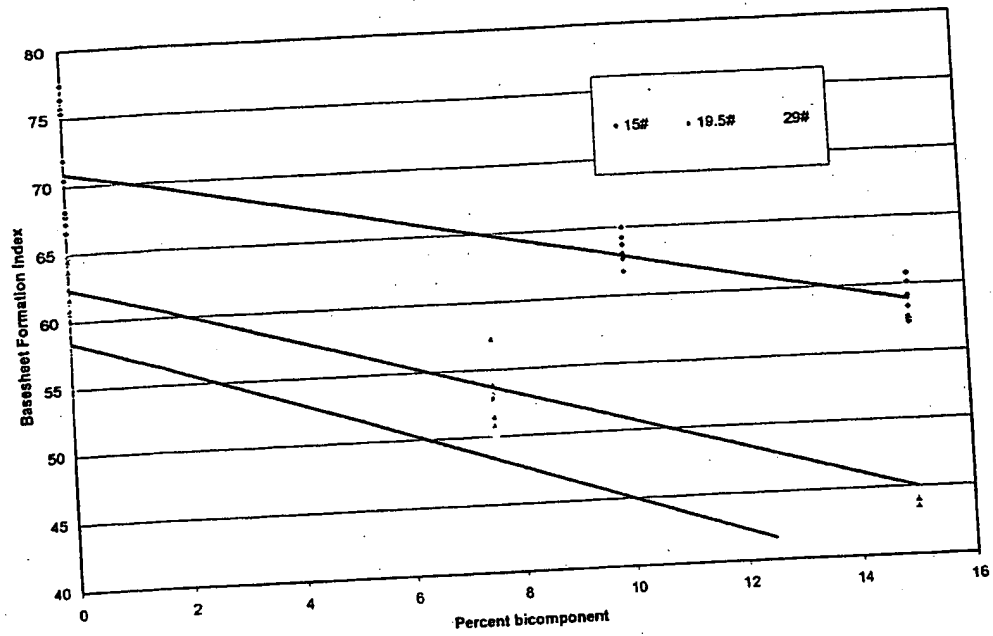


FIG. 6

Thermal bonded bicomponent skeleton from 15# stratified sheet with 15% bicomponent

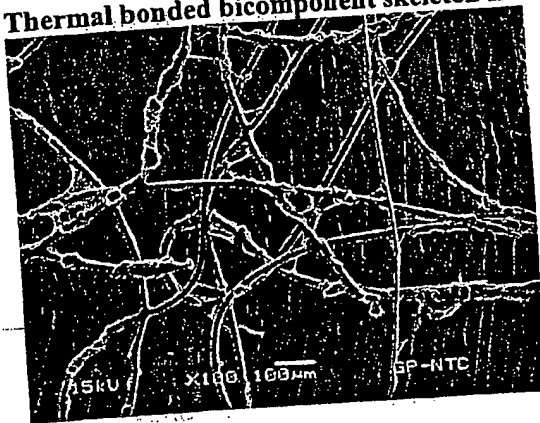


FIG. 7A

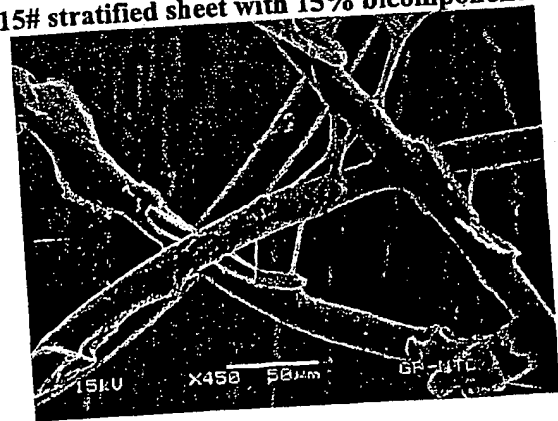
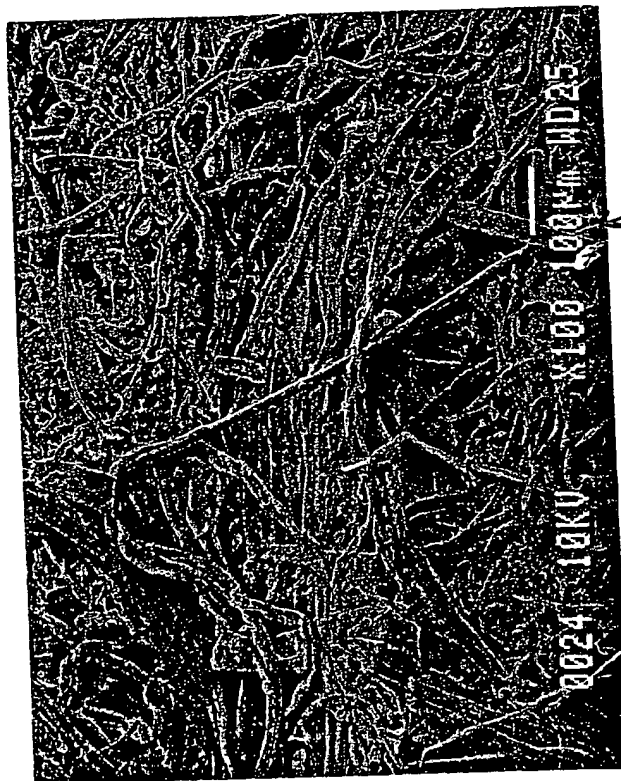
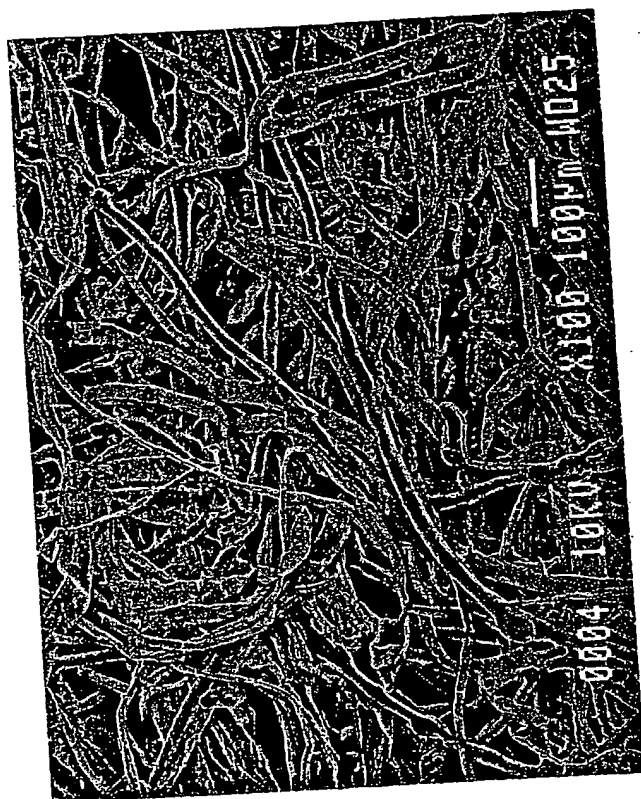


FIG. 7B



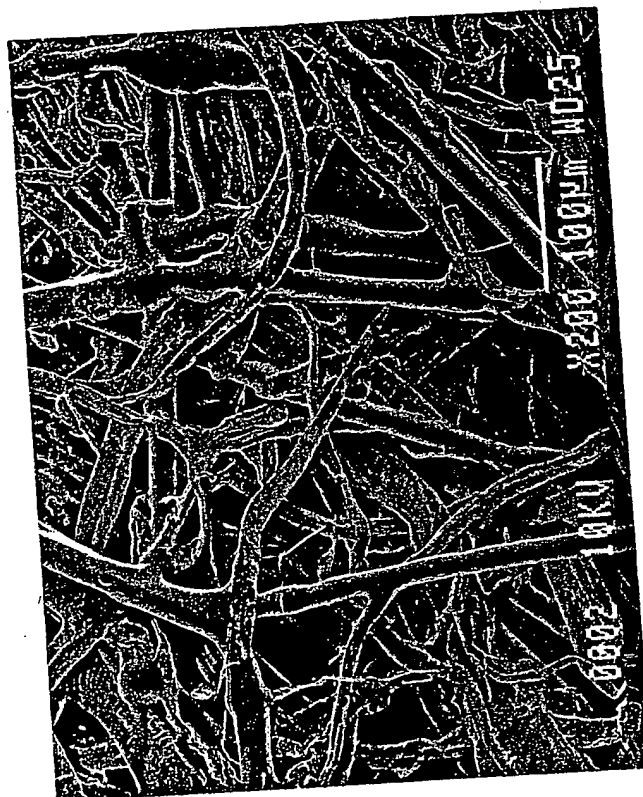
Cell 7 labeled side

Fig 8.



Cell 7 unlabeled side

FIG. 9



CELL 7 UNLABELED SIDE

FIG 10

Two-ply towel made from 15# stratified sheet with 15% bicomponent fiber.

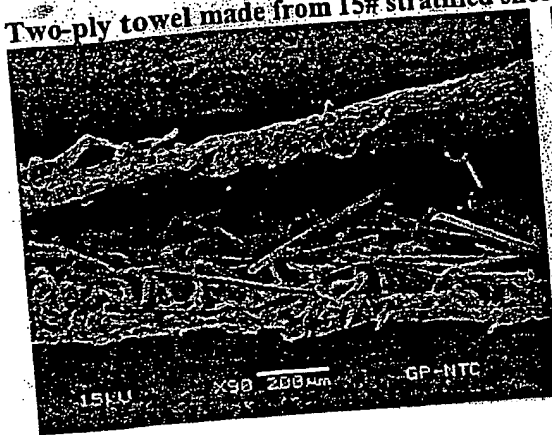


FIG 11A

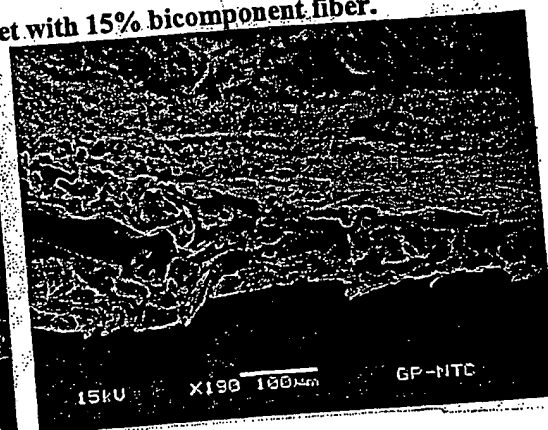


FIG 11B

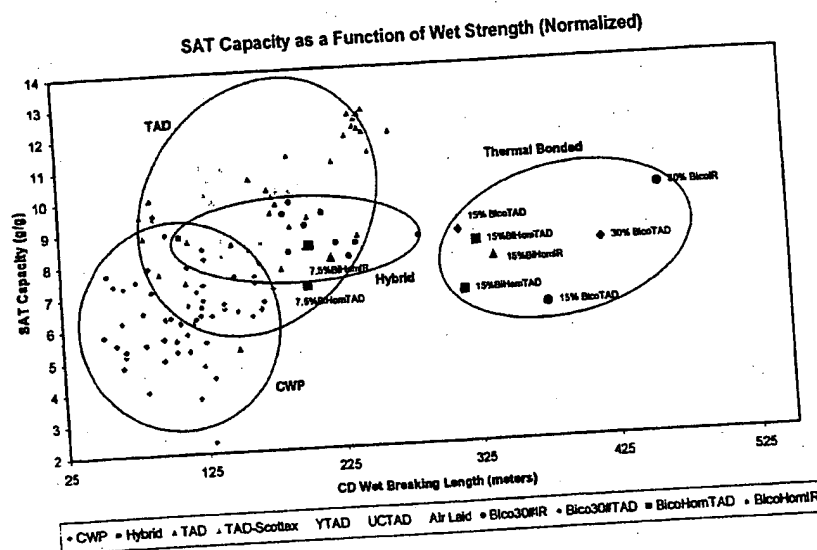


Fig. 12

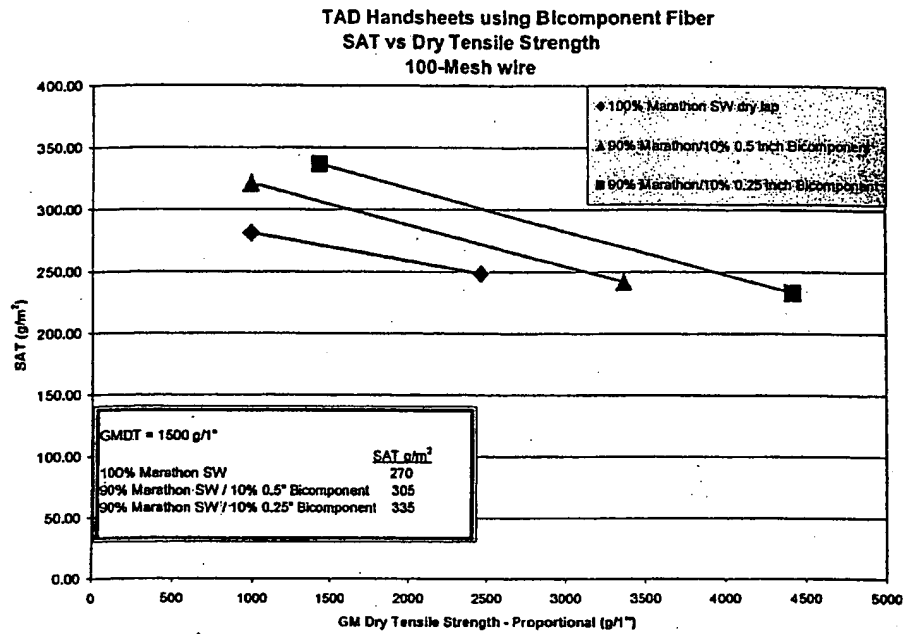


Fig. 13

TAD Handsheets using Bicomponent Fiber
SAT vs Dry Tensile Strength
Voith 44G

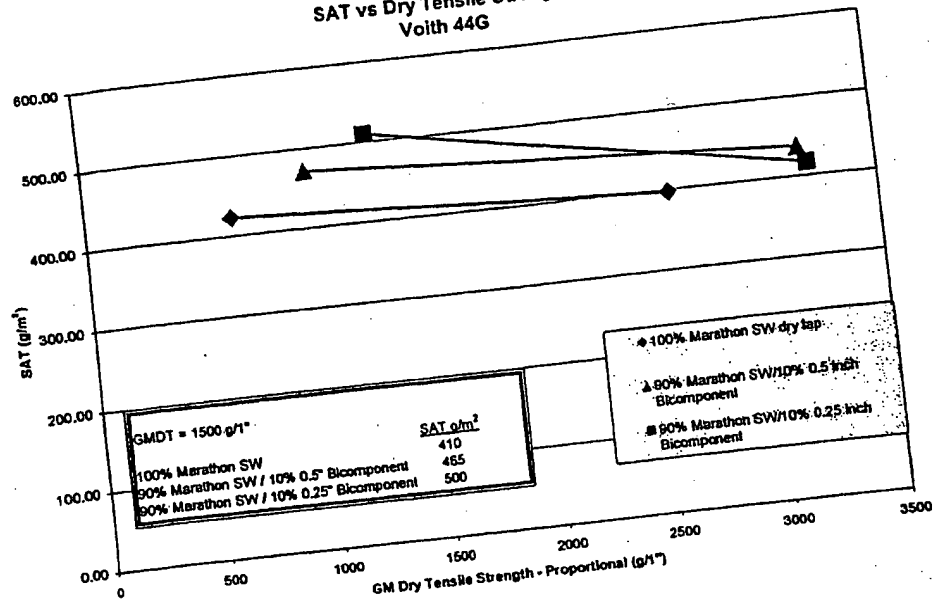


Fig. 14

TAD Handsheets using Bicomponent Fiber
SAT vs Wet Tensile Strength
100-Mesh wire

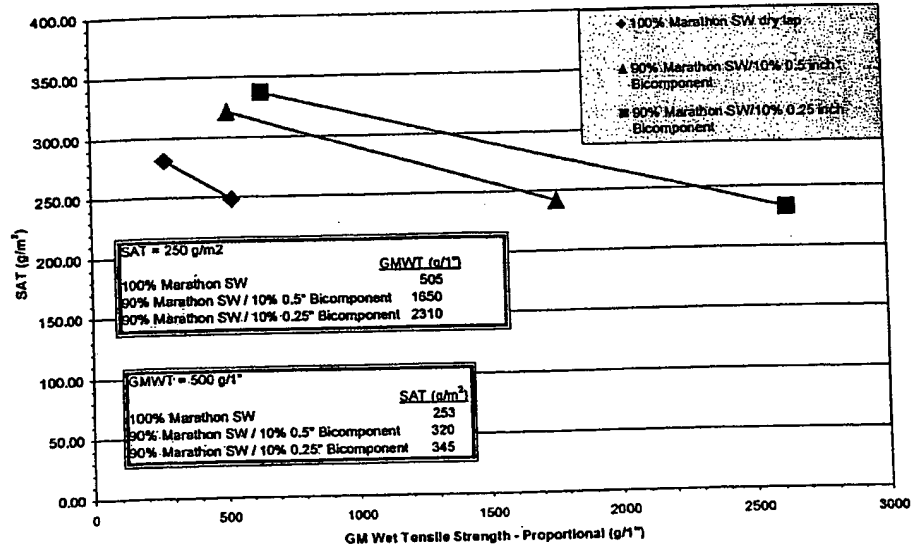


Fig. 15

TAD Handsheets using Bicomponent Fiber
 SAT vs Wet Tensile Strength
 Voith 44G

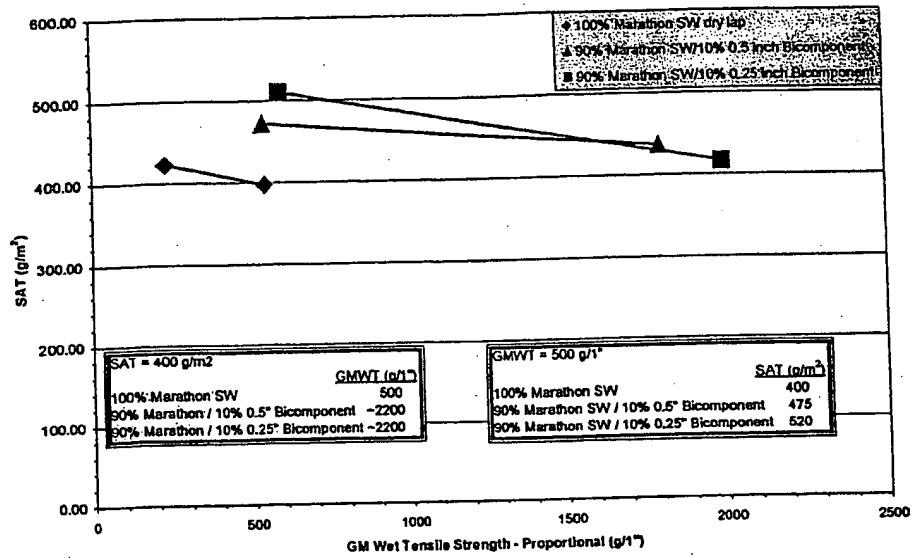


Fig. 16

TAD Handsheets using Bicomponent Fiber
Caliper vs Wet Tensile Strength
100-Mesh wire

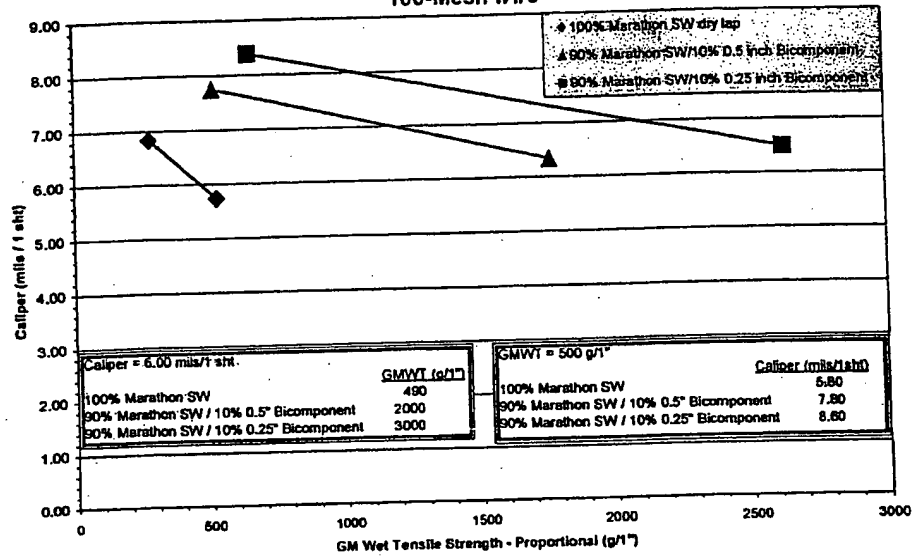


Fig. 17

TAD Handsheets using Bicomponent Fiber
Caliper vs Wet Tensile Strength
Voith 44G

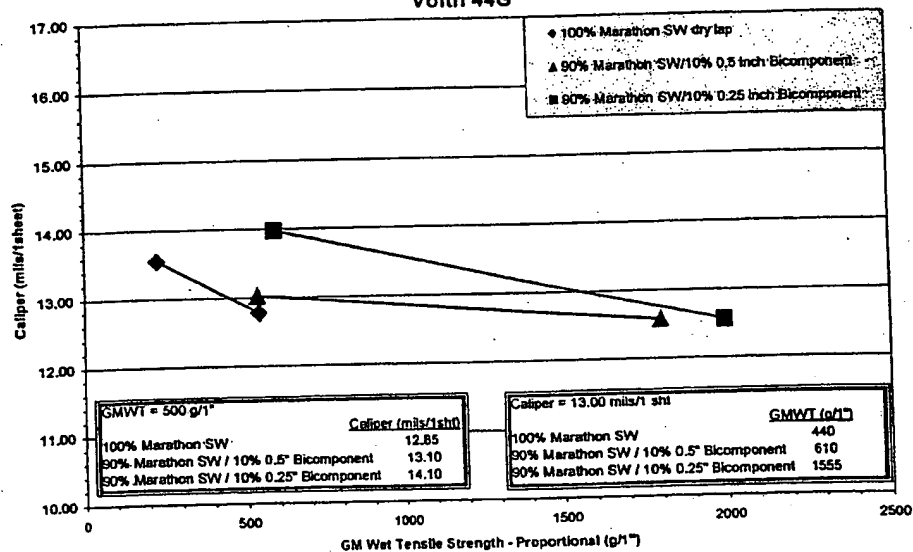


Fig. 18

TAD Handsheets using Bicomponent Fiber
Wet Tensile Strength vs Dry Tensile Strength
100-Mesh wire

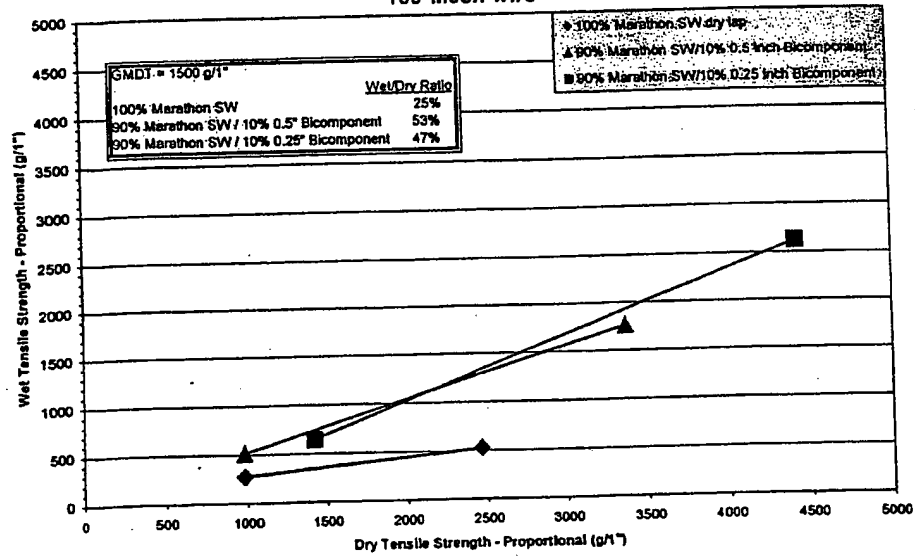


Fig. 19

TAD Handsheets using Bicomponent Fiber
Wet Tensile Strength vs Dry Tensile Strength
Voith 44G

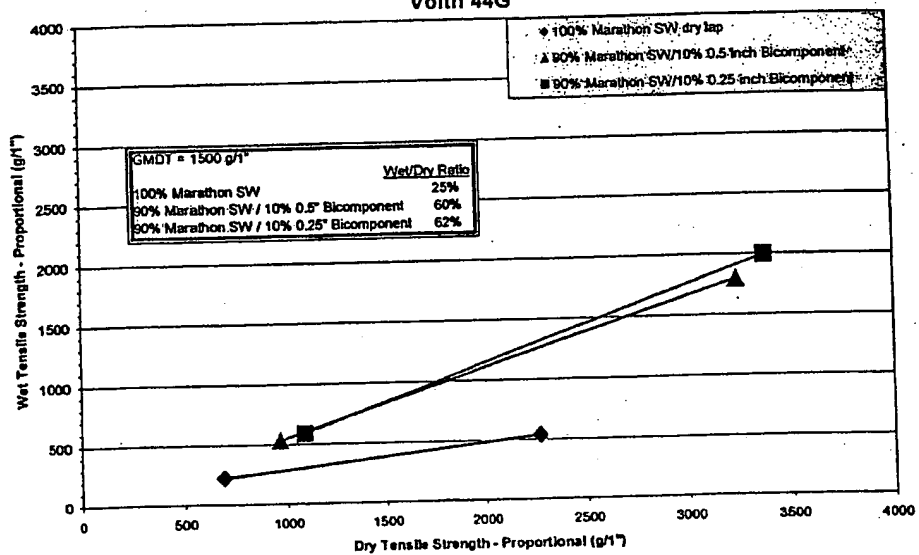


Fig. 20

30# Two-ply Embossed Towel Absorbency

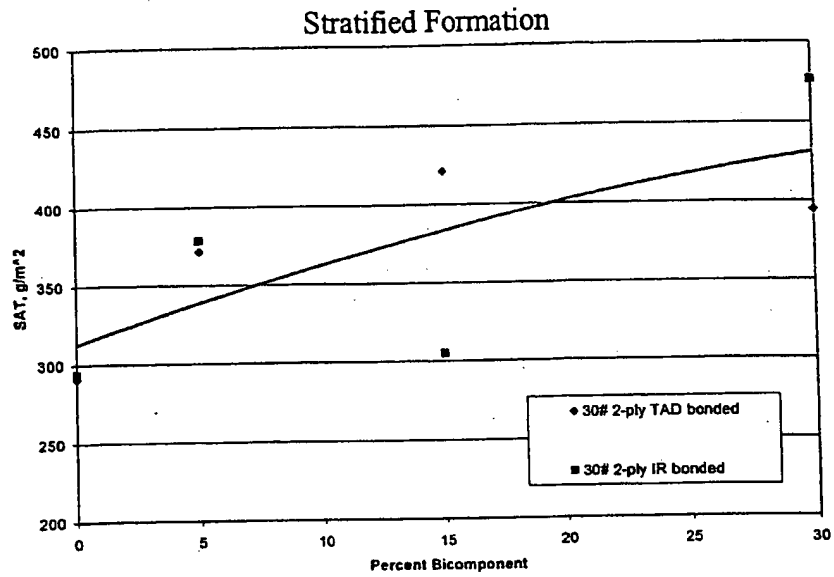


Fig. 21

30# Two-ply Embossed Towel Absorbency

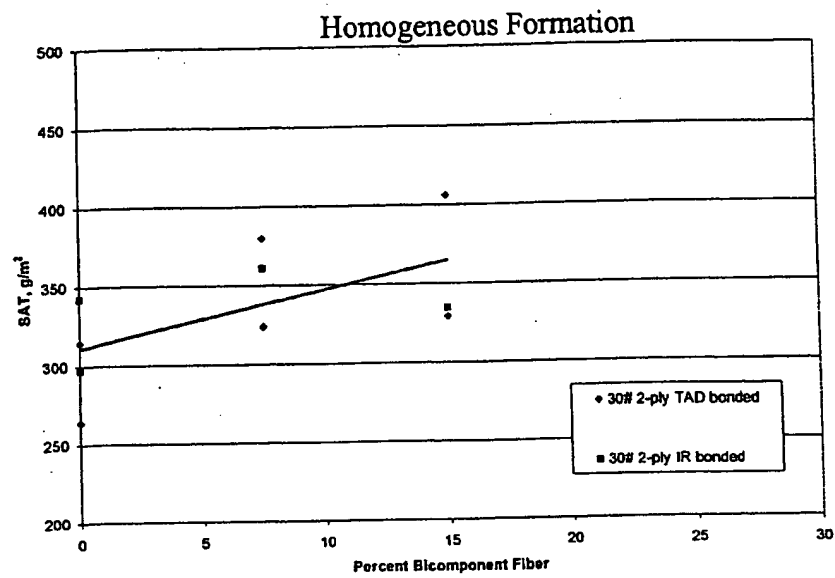


Fig. 22

30# Two-ply Embossed Towel CD Wet Tensile

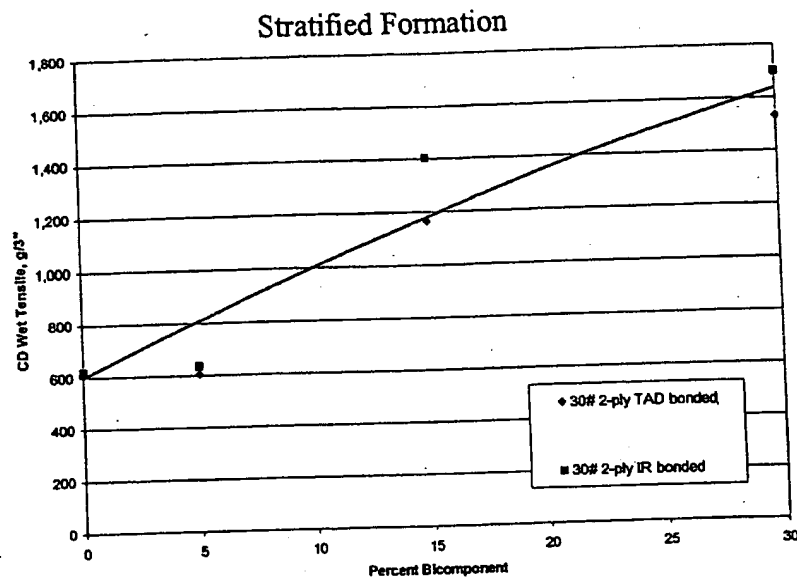


Fig. 23

30# Two-ply Embossed Towel CD Wet Tensile

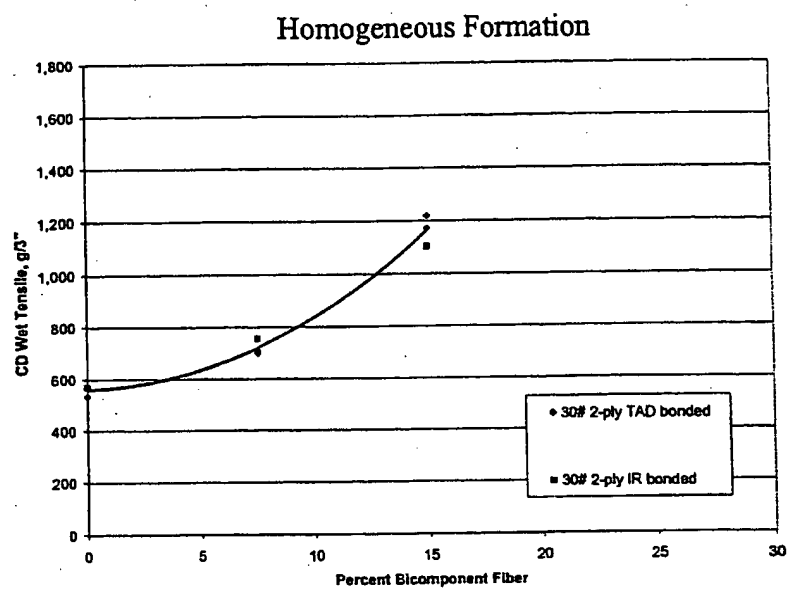


Fig. 24

30# Two-ply Embossed Towel Wet Bulk

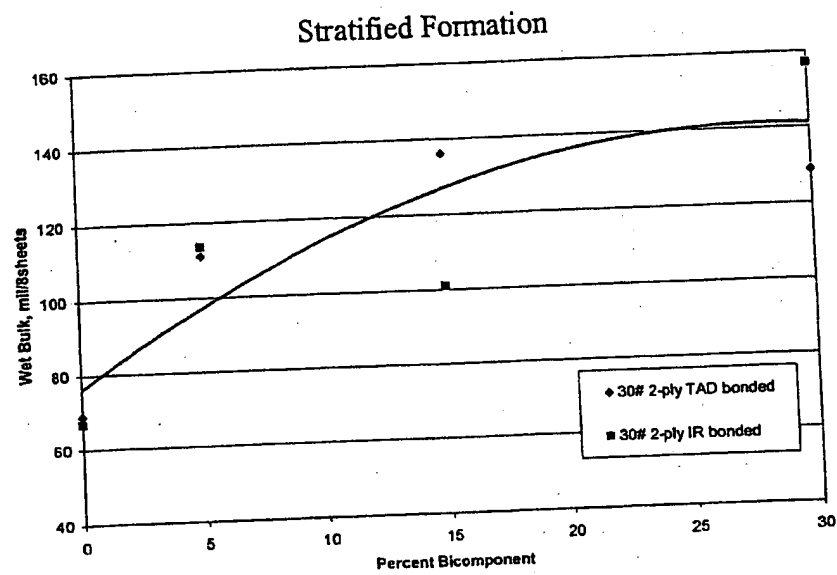


Fig. 25

30# Two-ply Embossed Towel Wet Bulk

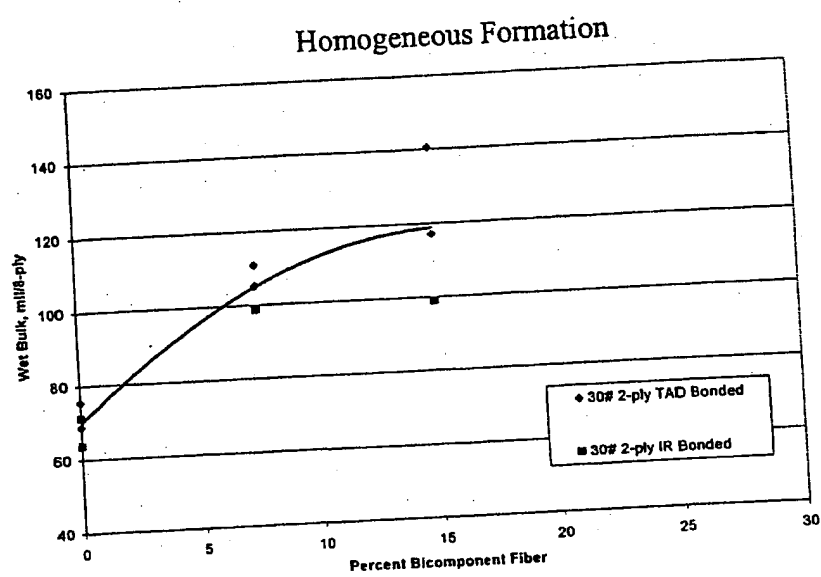


Fig. 26

28# 1-ply Towel GMT Tensile

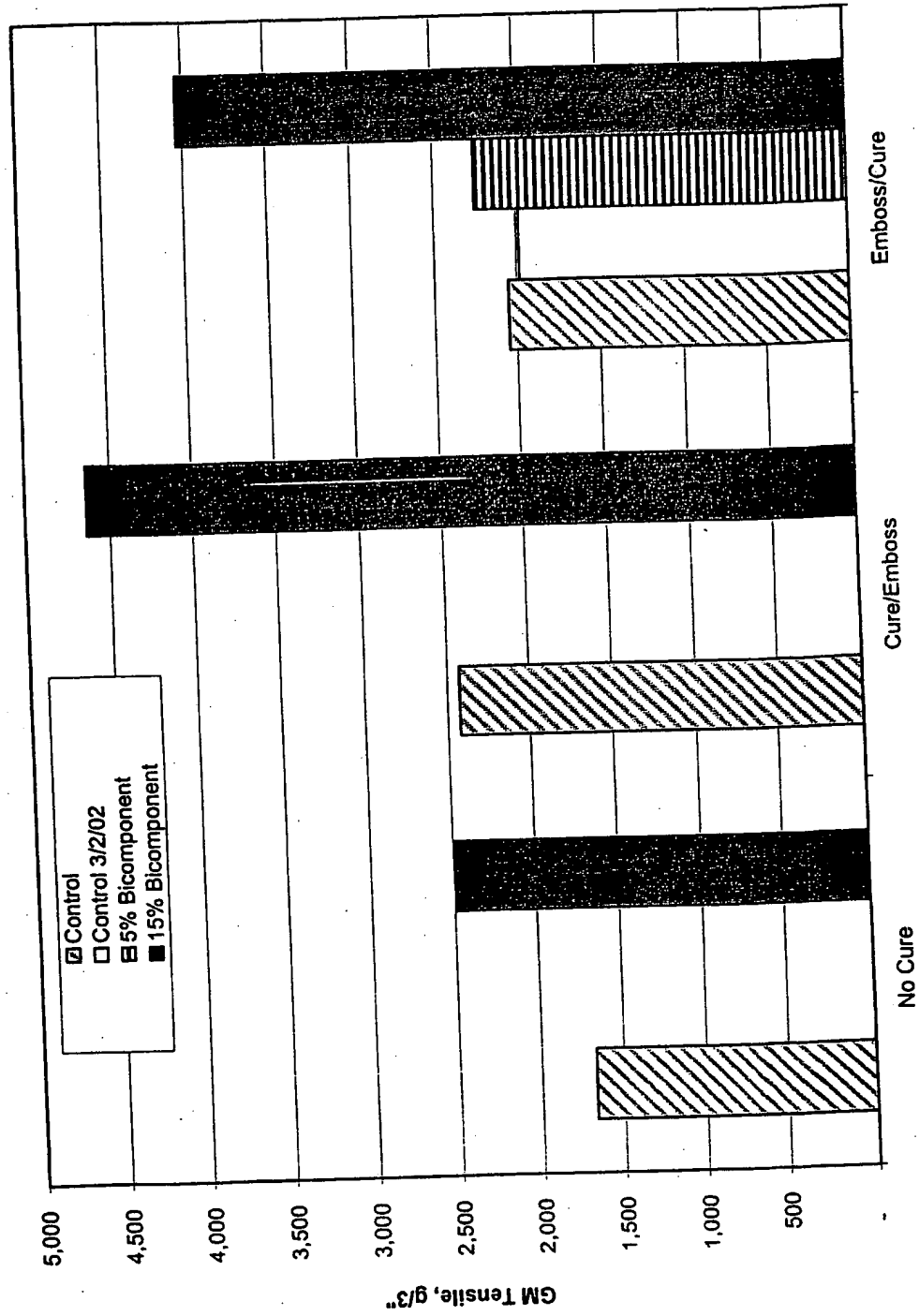


Fig. 27

28# 1-ply Towel Caliper

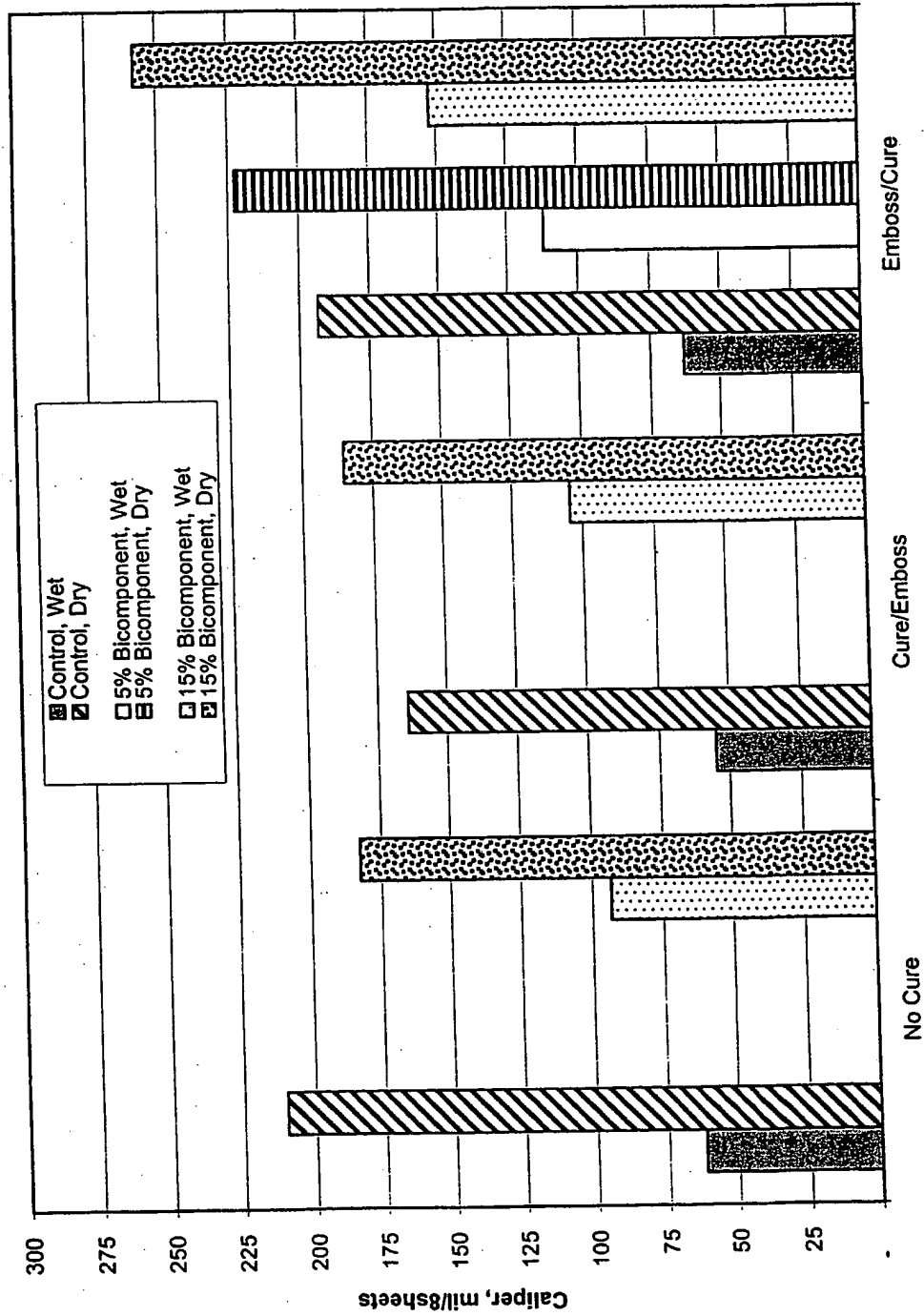


Fig. 28

28# 1-ply Towel Wet Resiliency

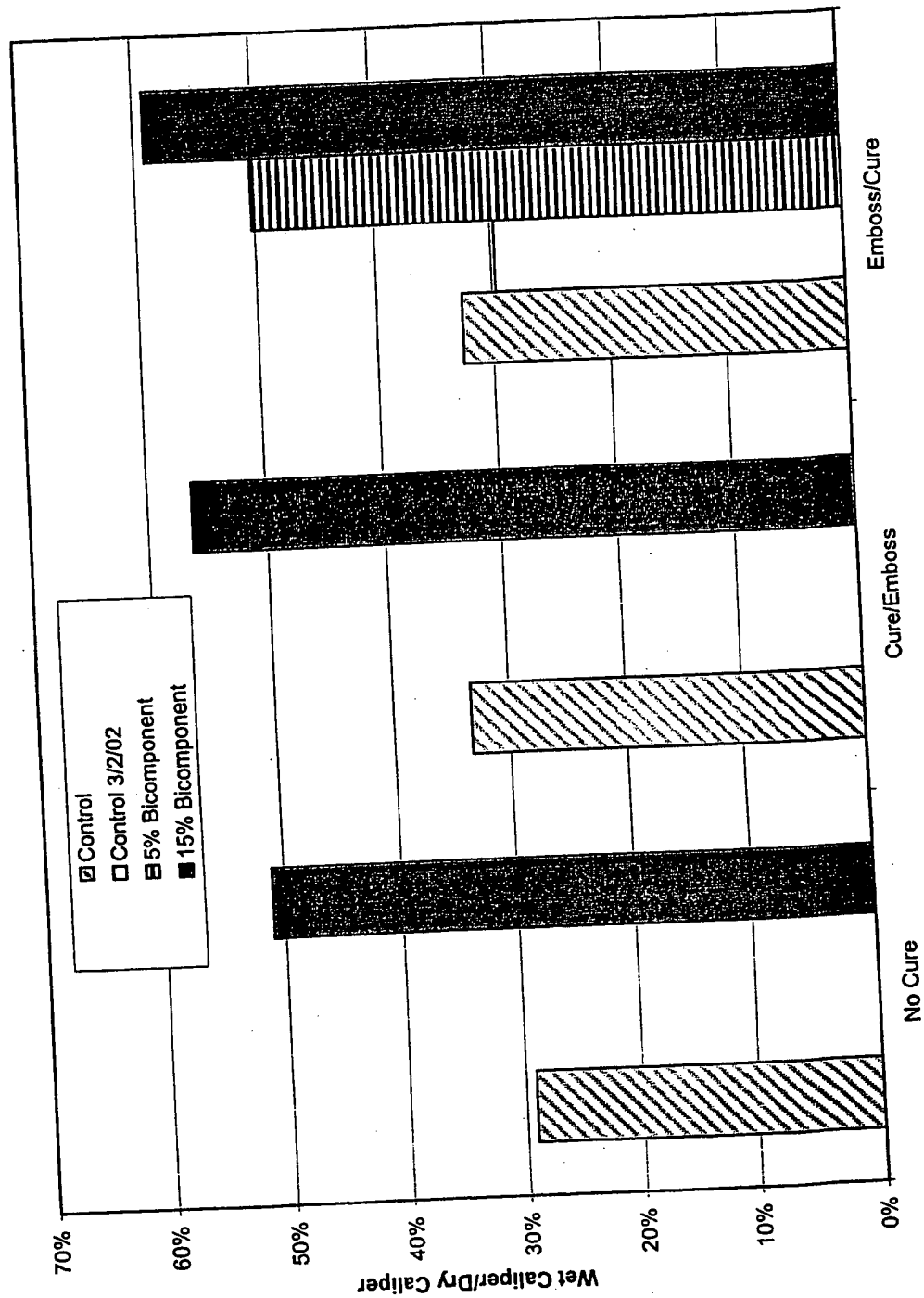


Fig. 29

28# 1-ply Towel Wet Tensile

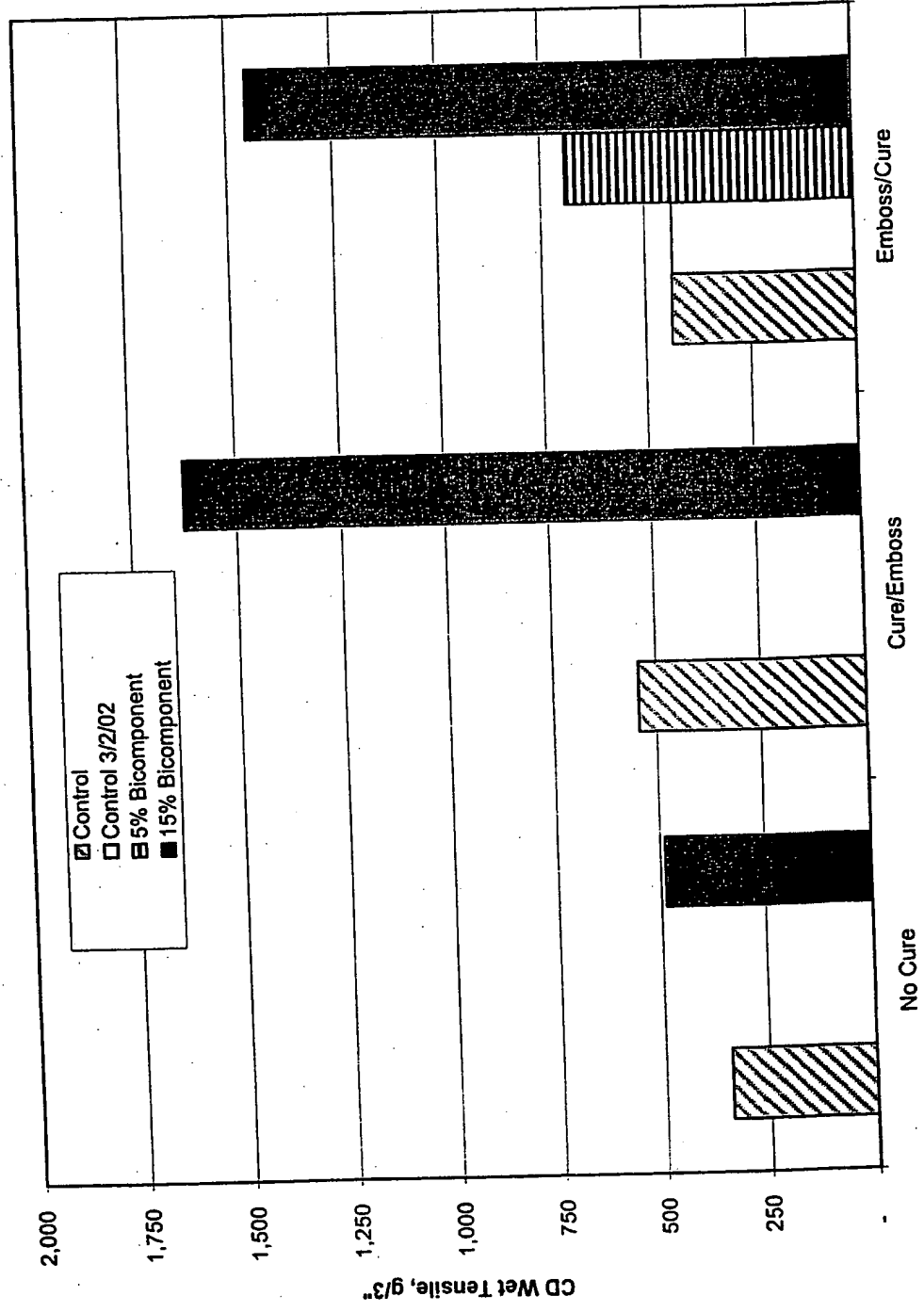


Fig. 30

28# 1-ply Towel Wet/Dry Tensile

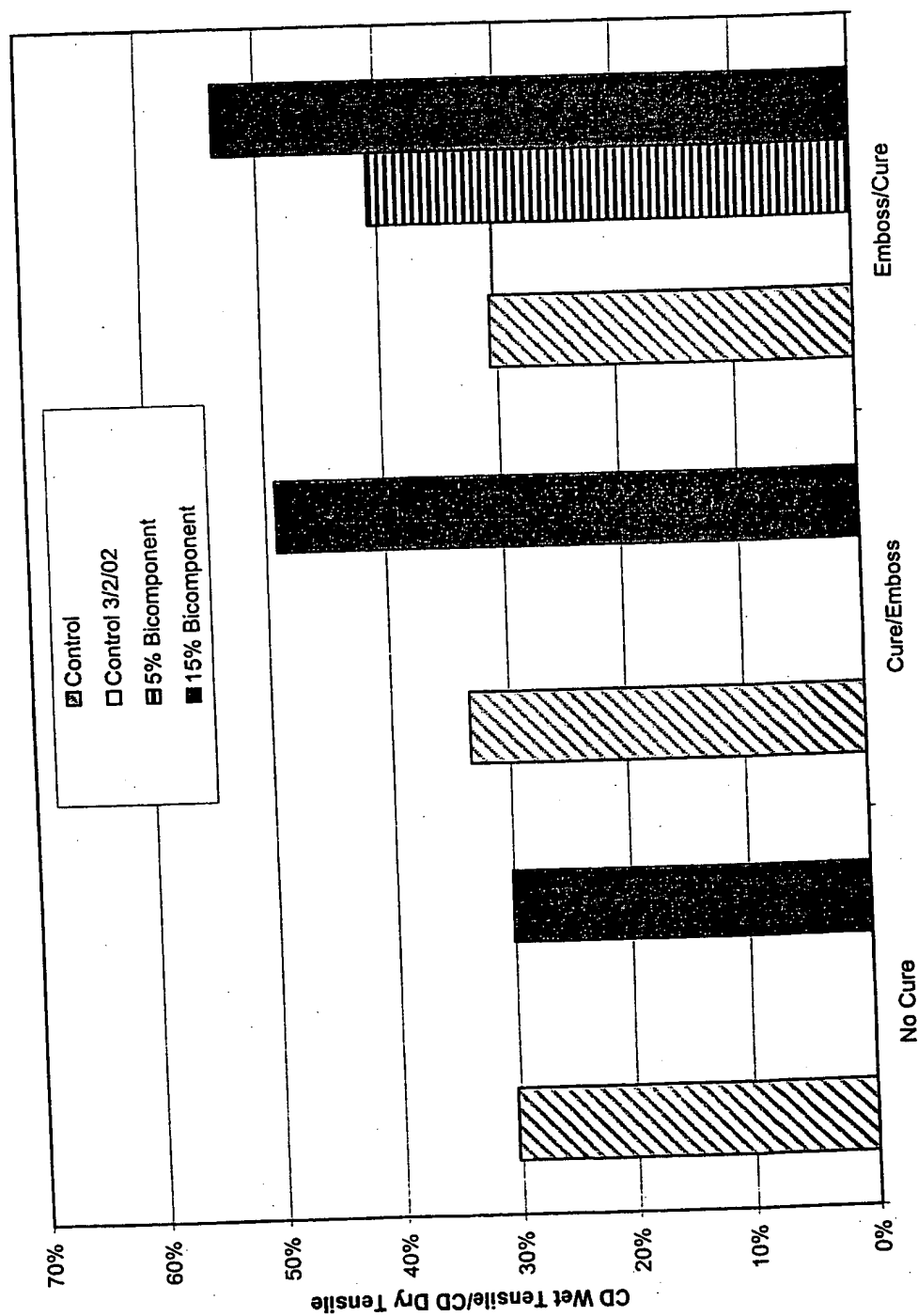


FIG. 31

Figure Effect of Yankee Temperature on Wet Tensile.

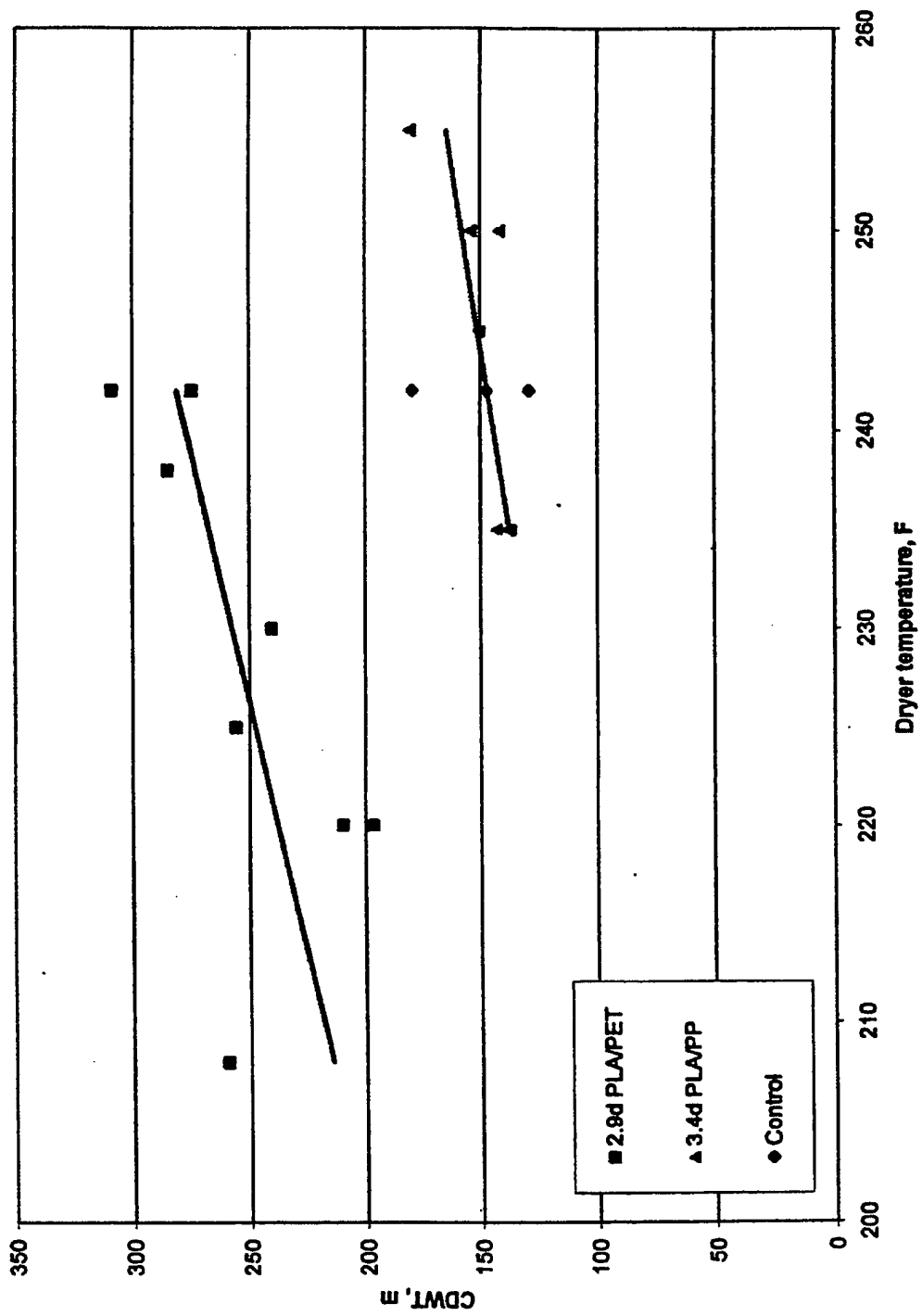
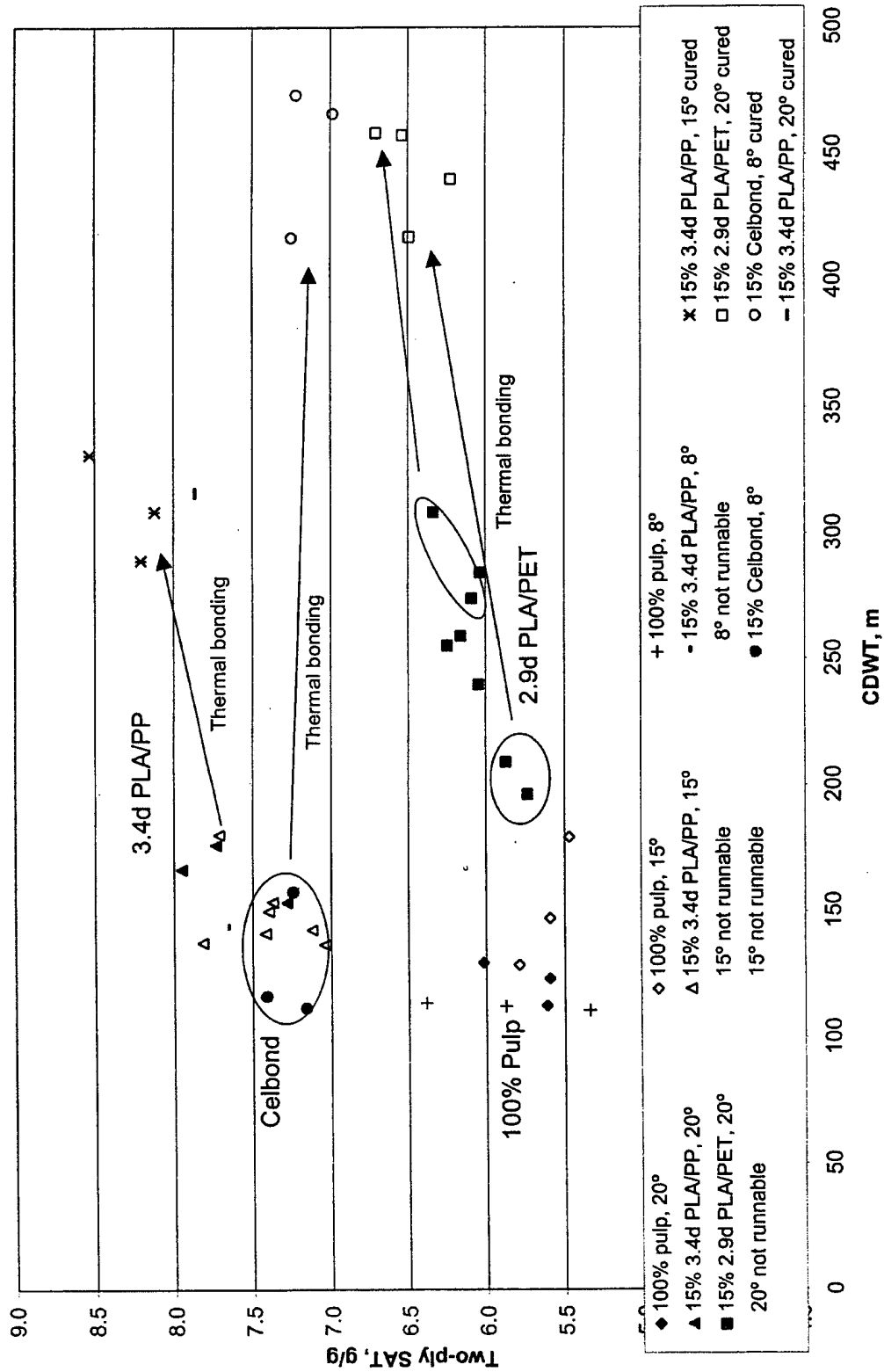


Figure 32



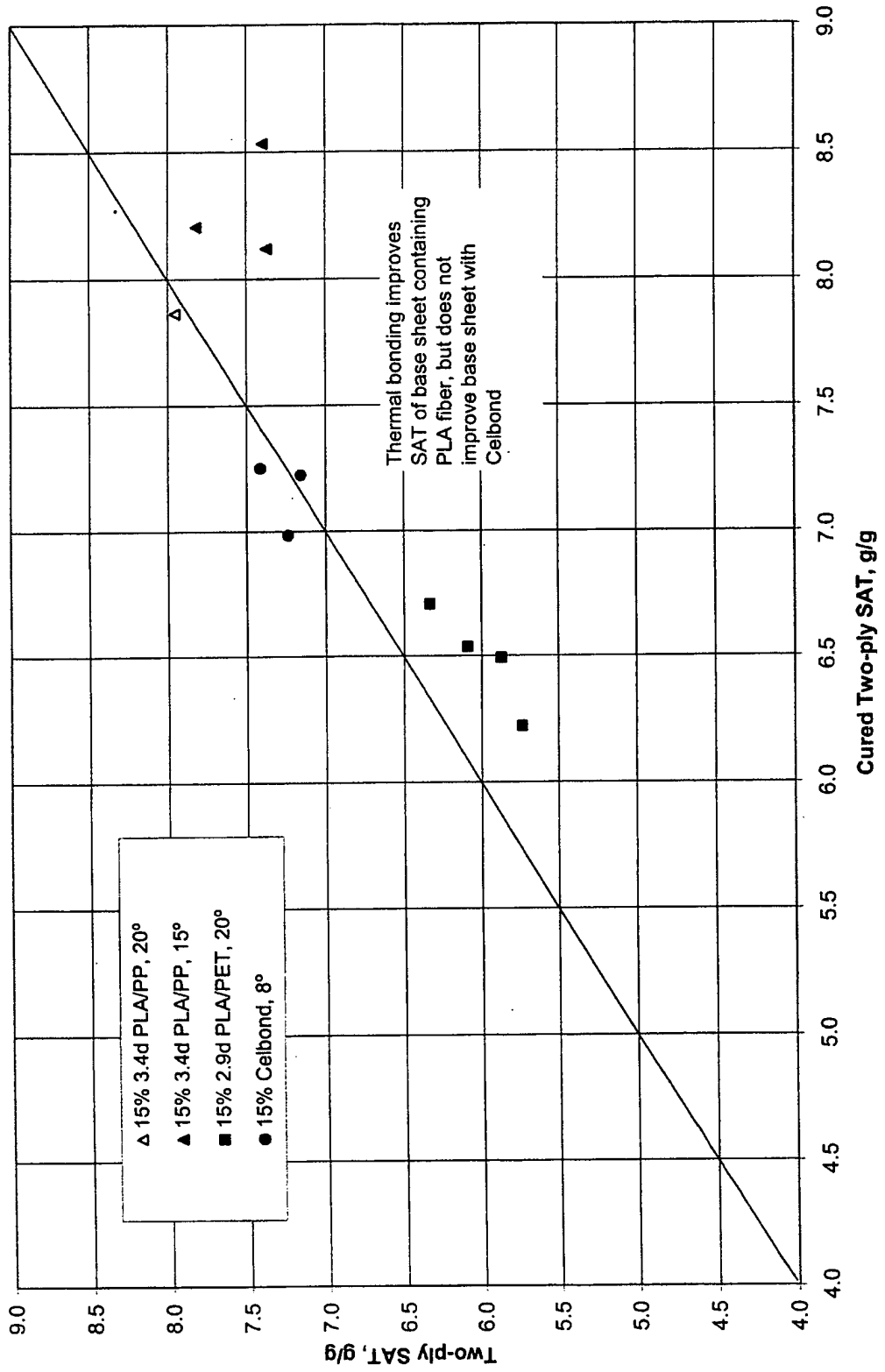
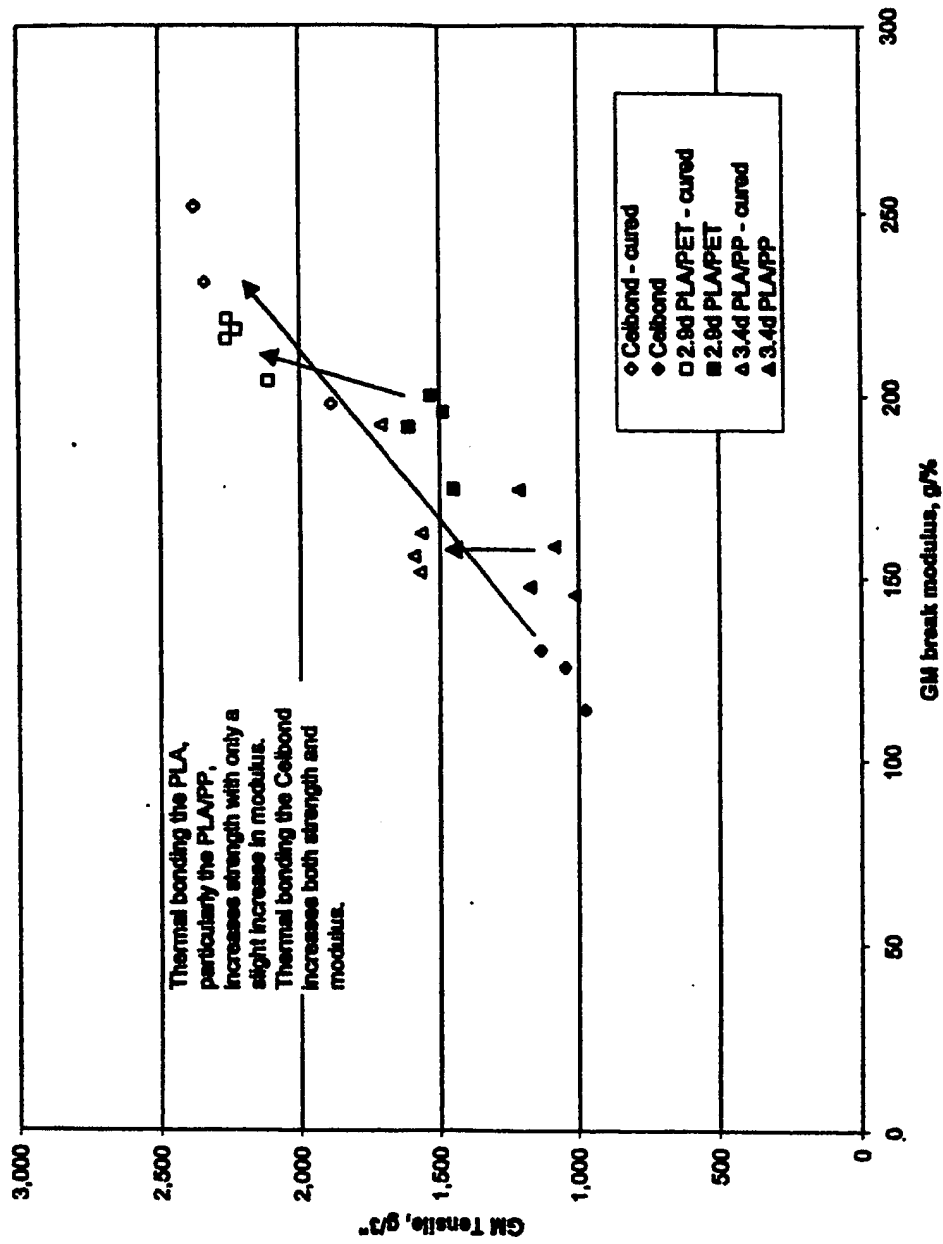


Figure 34

Effect of thermal bonding on modulus.



Effect of thermal bonding on MD stretch.

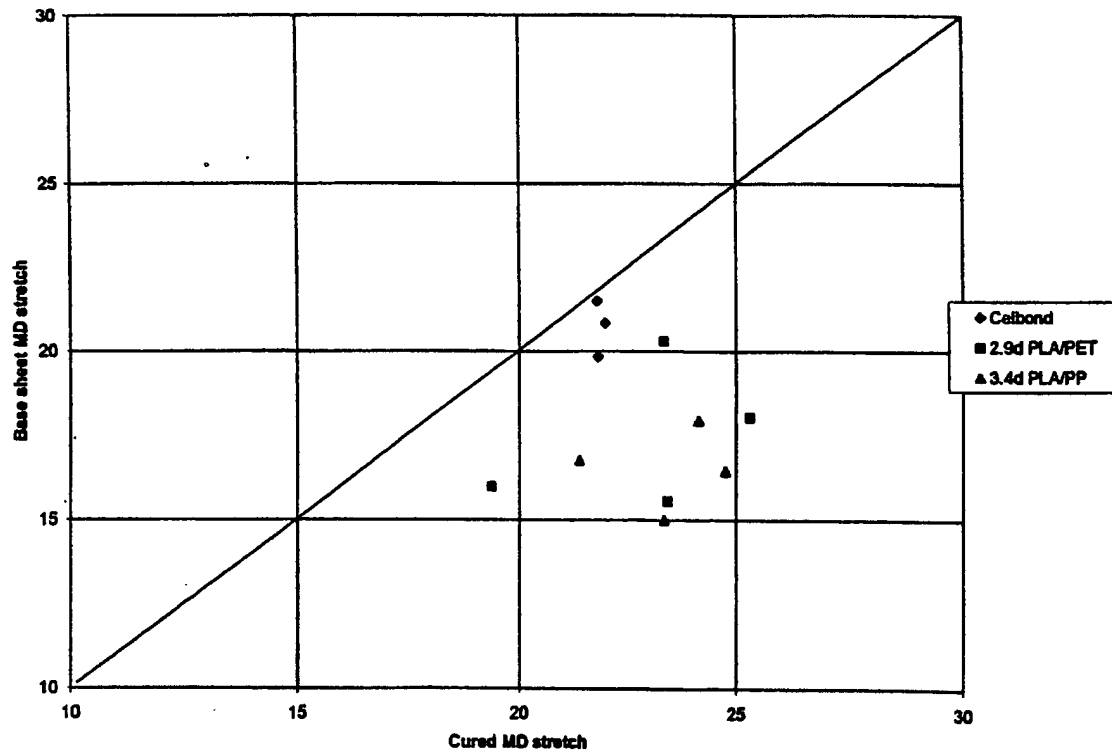


Figure 36

Effect of thermal bonding on CD stretch.

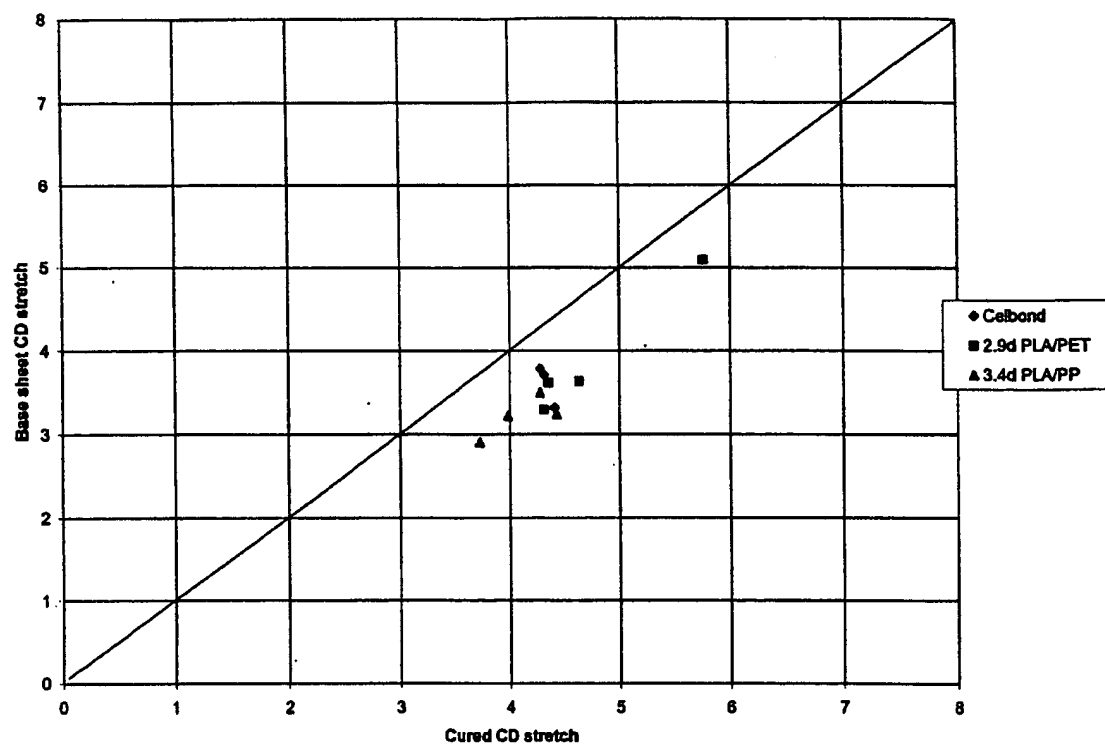


Figure 37

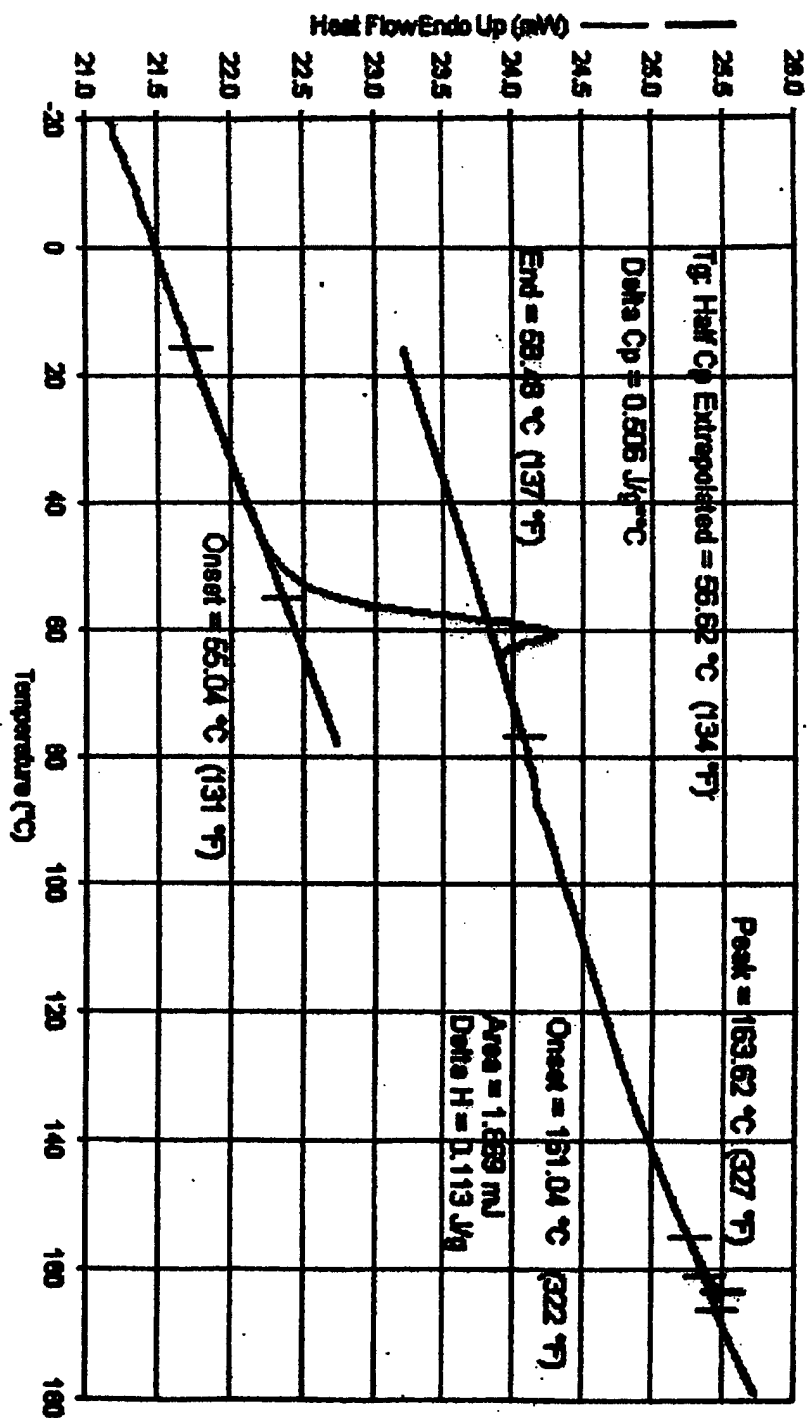


Figure 38

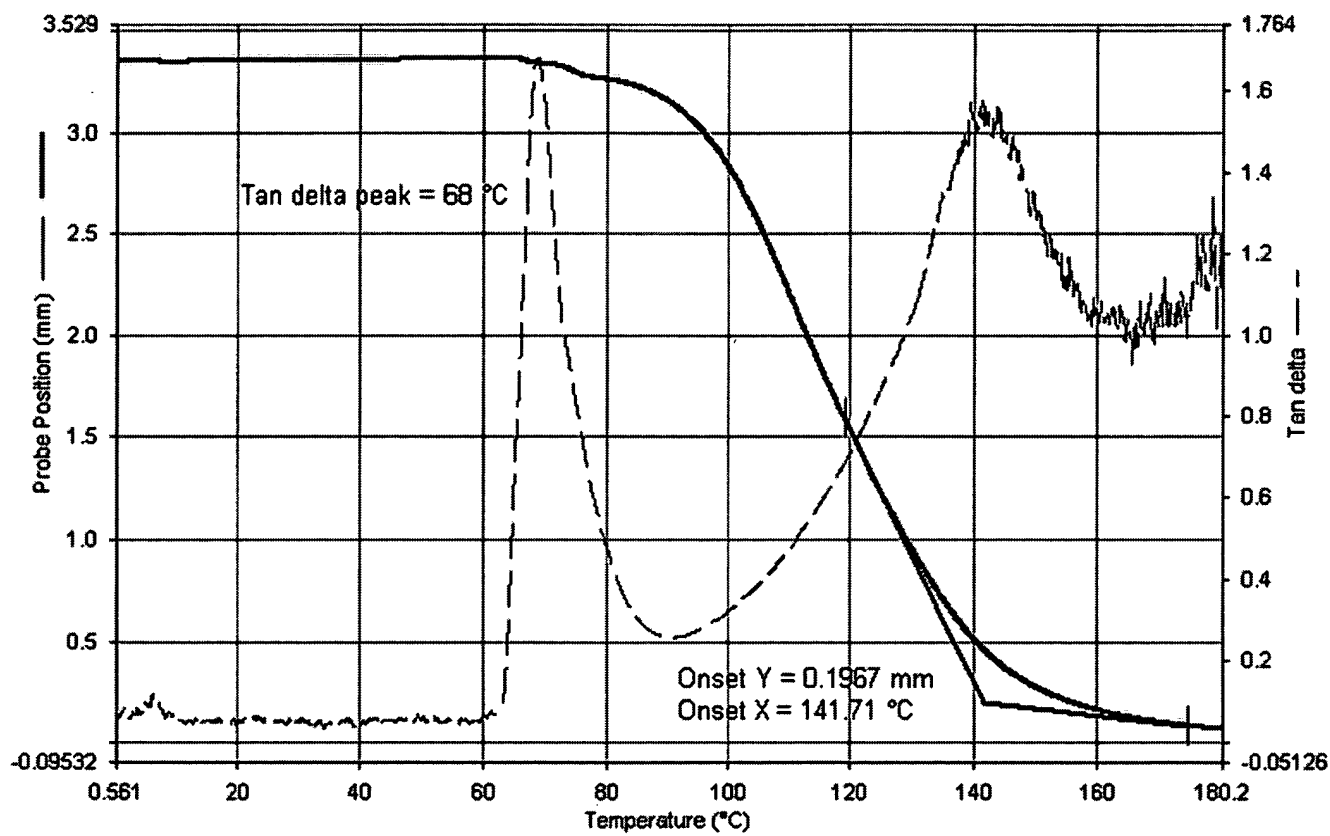


Figure 39